CLAIMS

What is claimed is:

1. A method for monitoring computer software comprising:
   receiving an assertion from an executing process;
   recording the assertion when it is violated; and
   allowing the executing process to continue execution.

2. The method of Claim 1 wherein receiving an assertion comprises:
   receiving an assertion request;
   recognizing a type for the assertion request; and
   accepting the assertion request when the determined type is enabled.

3. The method of Claim 1 wherein receiving an assertion comprises:
   receiving an assertion request;
   determining a component that sourced the assertion request; and
   accepting the assertion request when the determined component has assertion requests enabled.

4. The method of Claim 1 wherein recording the assertion comprises recording a datum that includes at least one of:
   type of assertion,
   sequence number of the assertion,
   time at which the assertion occurred,
   identification of processor that produced the assertion,
   identification of process that produced the assertion,
   identification of the thread that produced the assertion,
   text of the assertion,
   stack trace,
   source line containing the assertion, and
   file name of the source containing the code that generated the assertion.

5. The method of Claim 1 wherein recording the assertion comprises writing information regarding the assertion violation to a computer readable medium.

6. The method of Claim 1 wherein recording the assertion comprises writing information regarding the assertion violation to a circular buffer.

7. The method of Claim 1 further comprising:
   accepting a command from at least one of a control console and a network connection; and
   updating an enable condition for an assertion class according to the command.

8. The method of Claim 1 further comprising generating an error report according to the recorded assertion.

9. The method of Claim 8 further comprising dispatching the error report to a real-time assertion monitor.

10. The method of Claim 8 wherein generating an error report comprises:
    retrieving an assertion violation parameter including at least one of:
        type of assertion,
        sequence number of the assertion,
        time at which the assertion occurred,
        identification of processor that produced the assertion,
        identification of process that produced the assertion,
        identification of the thread that produced the assertion,
        text of the assertion,
        stack trace,
        source line containing the assertion, and
        file name of the source containing the code that generated the assertion; and
    generating a report file comprising page description statements according to the assertion parameter.

11. An apparatus for monitoring computer software comprising:
    assertion receiver that receives an assertion from an executing process; and
    assertion recorder that records the assertion when it is violated.

12. The apparatus of Claim 11 wherein the assertion receiver comprises:
    assertion request receiver that receives an assertion request; and
    assertion accept determination unit that recognizes an assertion type and generates an accept assertion signal when the recognized assertion type is enabled.

13. The apparatus of Claim 11 wherein the assertion receiver comprises:
    assertion request receiver that receives an assertion request;
    assertion component analyzer that determines a component that generated the assertion request;
    assertion accept determination unit that generates an accept assertion signal when the component that generated the assertion request has assertions enabled.

14. The apparatus of Claim 11 wherein the assertion recorder is capable of recording a datum that includes at least one of:
    type of assertion,
    sequence number of the assertion,
    time at which the assertion occurred,
    identification of processor that produced the assertion,
    identification of process that produced the assertion,
    identification of the thread that produced the assertion,
    text of the assertion,
    stack trace,
    source line containing the assertion, and
    file name of the source containing the code that generated the assertion.

15. The apparatus of Claim 11 wherein the assertion recorder comprises:
    information interface that receives assertion violation data; and

media controller that conveys the assertion violation data to a computer readable medium.

16. The apparatus of Claim 11 wherein the assertion recorder comprises:
information interface that receives assertion violation data; and
buffer manager that conveys the assertion violation data to a circular buffer.

17. The apparatus of Claim 11 further comprising:
command receiver capable of accepting a command from at least one of a control console and a network connection; and
assertion manager capable of updating an enable condition for an assertion class according to the command.

18. The apparatus of Claim 11 further comprising an error report generator capable of generating an error report according to the recorded assertion.

19. The apparatus of Claim 18 further comprising a dispatch unit capable of dispatching an error report to a real-time assertion monitor.

20. The apparatus of Claim 18 wherein the error report generator comprises:
data retrieval unit that retrieves an assertion violation parameter including at least one of:
type of assertion,
sequence number of the assertion,
time at which the assertion occurred,
identification of processor that produced the assertion,
identification of process that produced the assertion,
identification of the thread that produced the assertion,
text of the assertion,
stack trace,
source line containing the assertion, and
file name of the source containing the code that generated the assertion; and

report file generator capable of generating a report file comprising page description statements according to the assertion parameter.

21. A computer software monitoring system comprising:
memory capable of storing instructions;
processor capable of executing instructions stored in the memory; and
software monitor instruction sequence that, when executed by the processor, minimally causes the processor to:
receive an assertion from an executing process,
record the assertion, and
allow the executing process to continue execution.

22. The computer software monitoring system of Claim 21 wherein the software monitor instruction sequence comprises an assertion receiver instruction sequence that, when executed by the processor, minimally causes the processor to receive an assertion by minimally causing the processor to:
receive an assertion request;
recognize a type for the assertion request; and
accept the assertion request when the determined type is enabled.

23. The computer software monitoring system of Claim 21 wherein the software monitor instruction sequence comprises an assertion receiver instruction sequence that, when executed by the processor, minimally causes the processor to receive an assertion by minimally causing the processor to:
receive an assertion request;
determine a component that sourced the assertion request; and
accept the assertion request when the determined component has assertion requests enabled.

24. The computer software monitoring system of Claim 21 wherein the software monitor instruction sequence comprises an assertion recorder instruction sequence that, when

executed by the processor, minimally causes the processor to record an assertion by minimally causing the processor to record a datum that includes at least one of:

type of assertion,

sequence number of the assertion,

time at which the assertion occurred,

identification of processor that produced the assertion,

identification of process that produced the assertion,

identification of the thread that produced the assertion,

text of the assertion,

stack trace,

source line containing the assertion, and

file name of the source containing the code that generated the assertion.

25. The computer software monitoring system of Claim 21 wherein the software monitor instruction sequence comprises an assertion recorder instruction sequence that, when executed by the processor, minimally causes the processor to record an assertion by minimally causing the processor to write information regarding the assertion to a computer readable medium.

26. The computer software monitoring system of Claim 21 wherein the software monitor instruction sequence comprises an assertion recorder instruction sequence that, when executed by the processor, minimally causes the processor to record an assertion by minimally causing the processor to write information regarding the assertion to a circular buffer.

27. The computer software monitoring system of Claim 21 wherein the software monitor instruction sequence further minimally causes the processor to:

accept a command from at least one of a control console and a network connection; and

update an enable condition for an assertion class according to the command.

28. The computer software monitoring system of Claim 21 wherein the software monitor instruction sequence further minimally causes the processor to generate an error report according to the recorded assertion.

29. The computer software monitoring system of Claim 28 wherein the software monitor instruction sequence further minimally causes the processor to dispatch the error report to a real-time assertion monitor.

30. The computer software monitoring system of Claim 28 wherein the software monitor instruction sequence comprises an error report generator instruction sequence that, when executed by the processor, minimally causes the processor to generate an error report by minimally causing the processor to:

retrieve an assertion violation parameter including at least one of:

type of assertion,

sequence number of the assertion,

time at which the assertion occurred,

identification of processor that produced the assertion,

identification of process that produced the assertion,

identification of the thread that produced the assertion,

text of the assertion,

stack trace,

source line containing the assertion, and

file name of the source containing the code that generated the assertion; and

generate a report file comprising page description statements according to the assertion parameter.

31. A computer-readable medium having computer-executable instructions for performing a method for monitoring computer software, the instructions comprising modules for:

receiving an assertion from an executing process;

recording the assertion; and

allowing the executing process to continue execution.

32. The computer-readable medium of Claim 31 wherein the receiving an assertion module comprises modules for:

receiving an assertion request;

recognizing a type for the assertion request; and

accepting the assertion request when the determined type is enabled.

33. The computer-readable medium of Claim 31 wherein the receiving an assertion module comprises modules for:

receiving an assertion request;

determining a component that sourced the assertion request; and

accepting the assertion request when the determined component has assertion requests enabled.

34. The computer-readable medium of Claim 31 wherein the recording the assertion module comprises a module for recording a datum that includes at least one of:

type of assertion,

sequence number of the assertion,

time at which the assertion occurred,

identification of processor that produced the assertion,

identification of process that produced the assertion,

identification of the thread that produced the assertion,

text of the assertion,

stack trace,

source line containing the assertion, and

file name of the source containing the code that generated the assertion.

35. The computer-readable medium of Claim 31 wherein the recording the assertion module comprises a module for writing information regarding the assertion to a computer readable medium.

36. The computer-readable medium of Claim 31 wherein the recording the assertion module comprises a module for writing information regarding the assertion to a circular buffer.

37. The computer-readable medium of Claim 31, the instructions further comprising modules for:

accepting a command from at least one of a control console and a network connection; and

updating an enable condition for an assertion class according to the command.

38. The computer-readable medium of Claim 31, the instructions further comprising a module for generating an error report according to the recorded assertion.

39. The computer-readable medium of Claim 38, the instructions further comprising a module for dispatching the error report to a real-time assertion monitor.

40. The computer-readable medium of Claim 38 wherein dispatching the error report module comprises modules for:

retrieving an assertion violation parameter including at least one of:

type of assertion,

sequence number of the assertion,

time at which the assertion occurred,

identification of processor that produced the assertion,

identification of process that produced the assertion,

identification of the thread that produced the assertion,

text of the assertion,

stack trace,

source line containing the assertion, and

file name of the source containing the code that generated the assertion; and

generating a report file comprising page description statements according to the assertion parameter.

41. An apparatus for monitoring computer software comprising:

means for detecting an assertion from an executing process;

means for recording information pertaining to the assertion when it is violated; and

means for allowing the executing process to continue execution.

42. The apparatus of Claim 41 wherein means for detecting an assertion comprises:

means for ascertaining the type of an assertion request; and

means for ignoring the assertion request when the ascertained type is not enabled.

43. The apparatus of Claim 41 wherein means for detecting an assertion comprises:

means for ascertaining a component that sourced an assertion request; and

means for ignoring the assertion request when the ascertained component does not have assertions enabled.